



# Product Evaluation

RC457 | 0815

Engineering Services Program

*The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.*

*For more information, contact TDI Engineering Services Program at (800) 248-6032.*

**Evaluation ID:** RC-457

**Effective Date:** August 1, 2015

**Re-evaluation Date:** August 2019

**Product Name:** CM 175S .040 Aluminum Standing Seam Metal Roofing Panels Installed over a Steel Deck

**Manufacturer:** Carlisle Metal Products  
P.O. Box 7000  
Carlisle, PA 17013  
800-479-6832

## General Description:

This evaluation report is for the CM 175S .040 aluminum standing seam metal roofing panels installed over a 22 gauge steel deck. The aluminum standing seam metal roofing panels have 17 1/2" of coverage. The standing seam metal roof panels have a 1-3/4" rib height and a female rib that snaps over the male rib locking the panels together. The metal roofing panels are manufactured from .040" thick aluminum. Refer to Figure 1 for an illustration of the CM 175S standing seam panel.

## Limitations:

- **Roof Framing:** The metal roofing panels shall be installed over a 22 gauge steel deck. The steel deck is secured to steel purlins.
- **New Roof Framing Attachment:** The roof framing shall meet or exceed the uplift requirements of the International Residential Code or International Building Code and shall be installed as required for resistance to wind loads.
- **Design Pressures:** The design pressure uplift load resistance shall be as specified in Table 1.
- **Roof Slope:** The metal roofing panels may be installed on roofs with a roof slope as low as 2:12.

**Table 1**

**Attachment of CM 175S minimum 0.040" aluminum standing seam metal roofing panels to minimum 22 gauge steel deck**

Design Pressure	Purlins	Steel Deck	Attachment of Panel to Steel Deck
-88.0 psf	5'-0" on center; Nominal 5/16" flange	Minimum 22 gauge	Clips and fasteners @ 18" o.c.
-129.25 psf	5'-0" on center; Nominal 5/16" flange	Minimum 22 gauge	Clips and fasteners @ 12" o.c.

**Installation over an Existing Roof Covering:** Not permitted.

**Installation:**

- **General:** The metal roofing panels shall be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.
- **Steel Purlins:** The minimum thickness of the steel and the maximum spacing of the purlins shall be as specified in Table 1.
- **Structural Steel Deck:** Minimum 22 gauge ASTM A653 steel "B" deck with a G90 galvanized coating. Each steel deck panel is 36" wide and has 6 ribs that are 1-1/2" in height. The steel deck is secured to the steel purlins with No. 12 x 1-1/2" long, Hex washer head self-drilling screws. The fasteners shall be located 6" on center (one in each valley). The steel deck side laps are stitched together with No. 12 x 1" long, Hex washer head self-drilling screws spaced 6" on center.
- **Underlayment:** Use a minimum of one layer of No. 30 (Type II) asphalt felt. The underlayment used must comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. Install the underlayment with minimum 4" side laps and 6" end laps. Apply the underlayment with corrosion resistant tin caps and minimum 12-gauge 1-1/4" annular ring shank nails. Space the fasteners 6" on center at all end laps and two staggered rows 12" on center in the field.
- **Alternative Underlayment:** Either a synthetic underlayment or a peel and stick ice and water shield that complies with the requirements for underlayment as specified in the IRC and the IBC. The underlayment shall be installed per the manufacturer's installation instructions.
- **Attachment of Metal Roof Panels to the Roof Deck:** The metal roofing panels shall be secured to the roof deck with CM 175S snap lock fixed clips. Refer to Figure 1 for an illustration of the snap lock fixed clip. The snap lock fixed clip is 18 gauge L-shaped galvanized steel that is 2" wide, 1-7/8" high, and 3-3/4" long. Each CM 175S snap lock fixed clip is secured to the roof deck with two minimum No. 10 x 1" long pancake head self-drilling screws. The fasteners shall be long enough to ensure a minimum penetration of 3 pitches of thread below the steel deck. The snap lock fixed clips shall be located approximately 3" from each end and spaced as indicated in Table 1. The adjoining panels are snap locked into place.
- **Panel Edges:** As required by the manufacturer.
- **Panel Ends and End Laps:** As required by the manufacturer.
- **Trims, Closures, and Accessories:** Install components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim as required by the manufacturer.

**Note:** Keep the manufacturer's installation instructions at the job site during the installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.

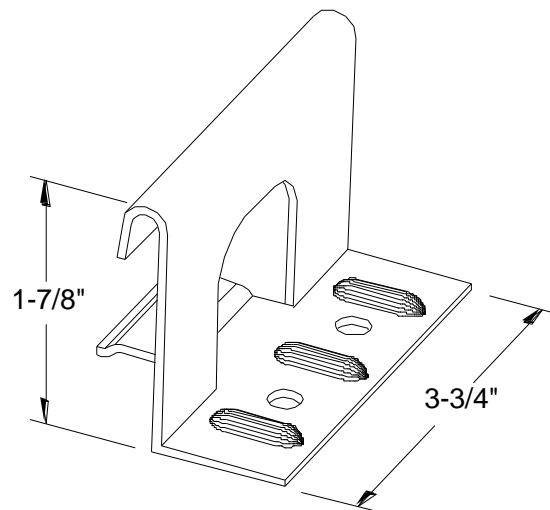
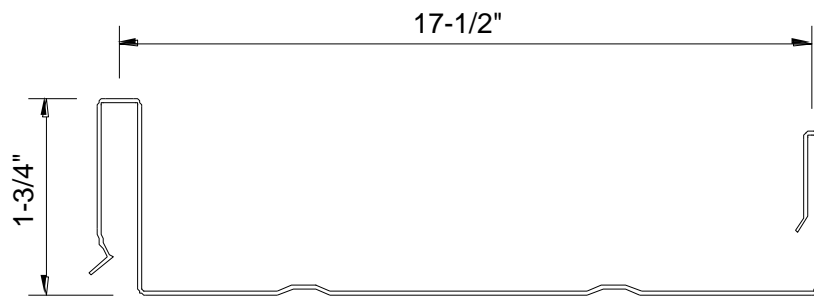


Figure 1. CM 175S Standing Seam Panel Profile and Snap Lock Clip.